



Name of Disorder: Traumatic Brain Injury

Essay Title: Living with Traumatic Brain Injury

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Content:

Living with traumatic brain injury (TBI) can be challenging for the patients and their families in many ways. Emergency medical care of TBI have improved substantially in Australia to decrease death rates from TBI. After TBI, some people may make significant recovery in the first months to years, and return to their previous work and life activities. However, many are left with ongoing problems with concentration, memory, multitasking, speed of information processing, as well as behavioural problems and this can have personally devastating impact on people's lives.

Approximately 10 million people are affected by TBI each year, worldwide (1). By year 2020, it is likely to become third greatest health problem (2). TBI is a surprisingly common problem, with as many as 1 in 130 people each year affected by TBI (3), and this can range from mild to severe types of TBI.

Symptoms of TBI can vary greatly, and the individual experiences and problems after TBI can also be variable. There are the direct impact of TBI on the brain, such as decreased wakefulness, attention, memory, multitasking, information processing. TBI can often affect the part of the brain controlling behaviour, and result in decreased ability to initiate activities, to self-monitor, or to have insight into problems, and cause childlike behaviours (6). TBI can affect the dexterity of hands and balance and coordination for walking and running. Ability to smell can be affected. Control of bladder and bowel sphincter and patterns may be affected.

As a result of TBI impact on their lives, many people who live with TBI experience flashbacks, low mood, or anxiety, and sleep can be disturbed. Substance abuse, like using recreational drugs and excessive drinking of alcohol can also be a major problem (7). Being able to live independently – to be safe at home alone or while out and about – can be affected especially where insight is affected, as well as returning to hobbies, recreation, study and work. Even after returning to study and work, the previous capabilities may have changed and completing the previous workload may be difficult or too exhausting. Many people experience fatigue after TBI, where the brain is exhausted with much less activity than before. Managing own money and lifestyle decision making can be affected, too. Roles in family and society, such as the capacity to caring for young children or being the breadwinner, can change (8). As a result, people have experienced a decrease in their quality of life and life satisfaction (9). To a large extent, the combination of individual resilience,

coping strategies and skills, and how the home and occupational environment supports and provides for their needs will determine the individual results of TBI.

Families and loved ones of people who have TBI can also experience a lot of difficulty. This might be in providing hands on care for those with severe problems after TBI, in managing the behaviour problems of brain injury. For others, it is challenges of adjusting to the person who has changed from their previous self (10).

Although the most severe forms of TBI have worse problems in the long term, people with milder forms of TBI can perceive more difficulty after TBI (11). The individual impact of milder forms of TBI should not be underestimated or overlooked.

Studies in TBI have shown that having a specialist follow up after TBI is really important. Brain injury specialists in rehabilitation are able to assess and address problems of TBI, as well as give guidance as to how one recovers from the specific severity and type of TBI. Early treatment of TBI symptoms can decrease its long term impact, and improve symptoms and lifestyle problems after brain injury (12). For severe forms of TBI, this care can be provided in the hospital setting while admitted into the hospital. For less severe forms of TBI, care can be provided from clinic settings. There are also invaluable support groups for people who suffer from TBI, and can give long term support and counselling for all involved.

Brain injury rehabilitation involves a team approach with many specialists and allied health therapists to assess and manage specific problems; to provide training and education; and give counselling and support. This is individualised and tailored to the needs, and might include specialised equipments and aids. Advocacy and supported return to work, driving and recreation are important aspects of brain injury rehabilitation. Long term follow up, especially with ageing, is needed to problem-solve as the body changes.

Living with TBI at individual levels can be challenging for all severity of TBI. TBI care should extend beyond the early hospital care, especially in the severe forms of TBI. Brain injury rehabilitation specialists and other supports for survivors of TBI are available, and should be accessed as early as possible. Where appropriate, the brain injury rehabilitation team can be a useful resource for improving lives of people with TBI.

References:

1. Hyder AA, Wunderlich CA, Puvanachandra P, Gururaj G, Kobusingye OC. The impact of traumatic brain injuries: A global perspective. *NeuroRehabilitation* 2007; 22: 341-53.
2. The Lancet N. Traumatic brain injury: time to end the silence. *The Lancet Neurology* 2010; 9: 331.
3. Feigin VL, Theadom A, Barker-Collo S, Starkey NJ, McPherson K, Kahan M, et al. Incidence of traumatic brain injury in New Zealand: a population-based study. *The Lancet Neurology* 2013; 12: 53-64.
4. Corso P, Finkelstein E, Miller T, Fiebelkorn I, Zaloshnja E. Incidence and lifetime costs of injuries in the United States. *Injury prevention : journal of the International Society for Child and Adolescent Injury Prevention* 2006; 12: 212-8.



5. Stiers W, Carlozzi N, Cernich A, Velozo C, Pape T, Hart T, et al. Measurement of social participation outcomes in rehabilitation of veterans with traumatic brain injury. *J Rehabil Res Dev* 2012; 49: 139.
6. Millis SR, Rosenthal M, Novack TA, Sherer M, Nick TG, Kreutzer JS, et al. Long-term neuropsychological outcome after traumatic brain injury. *The Journal of head trauma rehabilitation* 2001; 16: 343-55.
7. Hart T, Hoffman JM, Pretz C, Kennedy R, Clark AN, Brenner LA. A longitudinal study of major and minor depression following traumatic brain injury. *Archives of physical medicine and rehabilitation* 2012; 93: 1343-9.
8. Reistetter TA, Abreu BC. Appraising evidence on community integration following brain injury: a systematic review. *Occupational Therapy International* 2005; 12: 196-217.
9. Hawthorne G, Gruen RL, Kaye AH. Traumatic brain injury and long-term quality of life: findings from an Australian study. *Journal of neurotrauma* 2009; 26: 1623-33.
10. Blake H. Caregiver stress in traumatic brain injury. *International Journal of Therapy and Rehabilitation* 2008; 15: 263-71.
11. Brown M, Dijkers MP, Gordon WA, Ashman T, Charatz H, Cheng Z. Participation objective, participation subjective: a measure of participation combining outsider and insider perspectives. *Journal of Head Trauma Rehabilitation* 2004; 19: 459-81.
12. Wade DT, King NS, Wenden FJ, Crawford S, Caldwell FE. Routine follow up after head injury: a second randomised controlled trial. *Journal of neurology, neurosurgery, and psychiatry* 1998; 65: 177-83.